

VI. Detailed Findings & Recommendations

A. Definitions:

1. Frequency of Deficiencies:

- a. Typical: Typical Deficiencies noted occur at multiple locations throughout the building. The general cause of this type of deficiency is usually normal deterioration of the building components.

2. Severity of Deficiency

- a. Level F: Structurally Unstable (Immediate Repair Required)
- b. Level D: Will Become Structurally Unstable (Must Be Repaired Within 3 Years):
- c. Level B: Acceptable Condition (Include With Scheduled Maintenance):

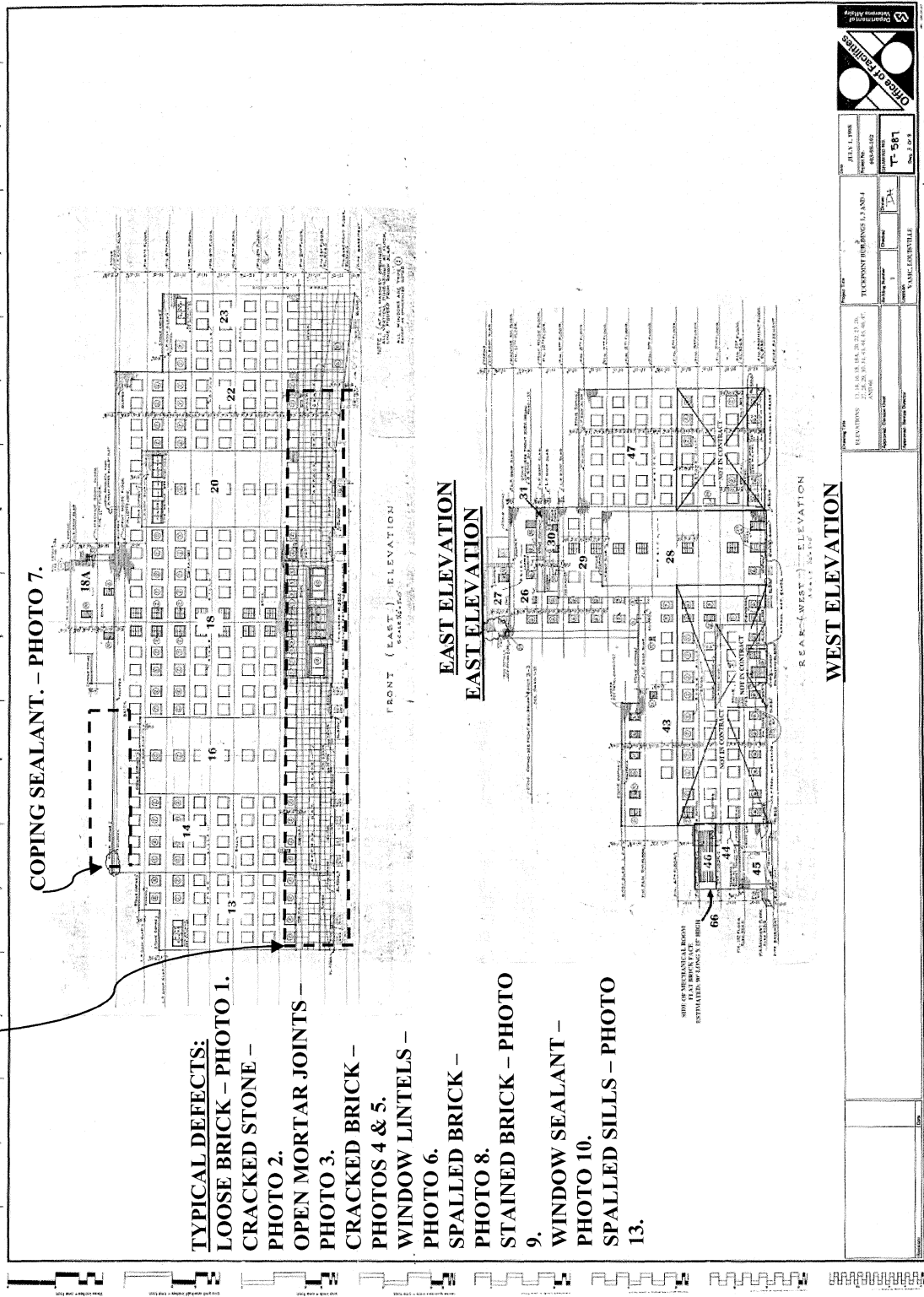
B. Deficiency Elevation Drawing (East & West Elevations)

FAILED JOINT SEALANT AND CRACKED STONE
FACADE AREA - PHOTOS 2 AND 12.

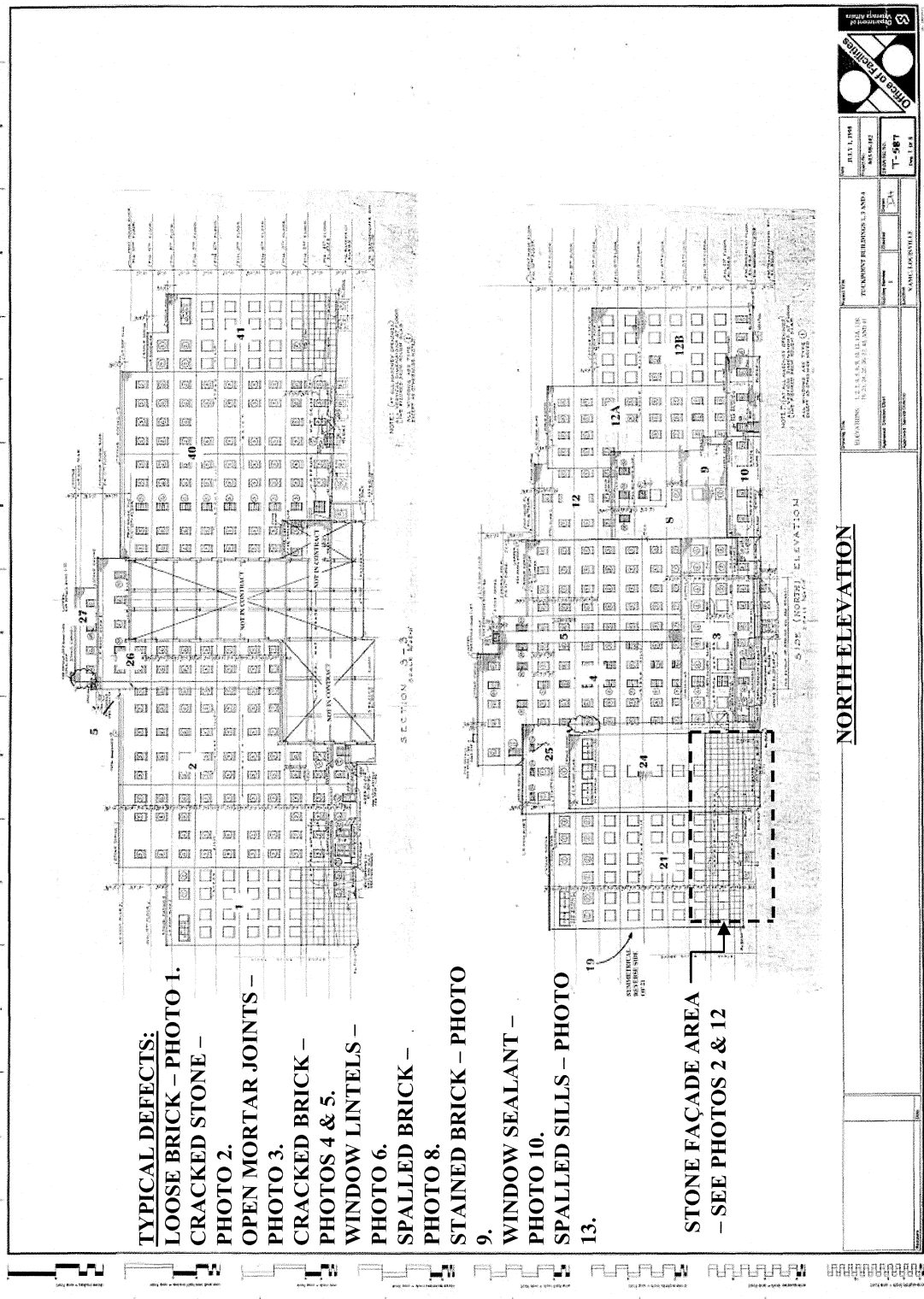
COPING SEALANT. - PHOTO 7.

TYPICAL DEFECTS:

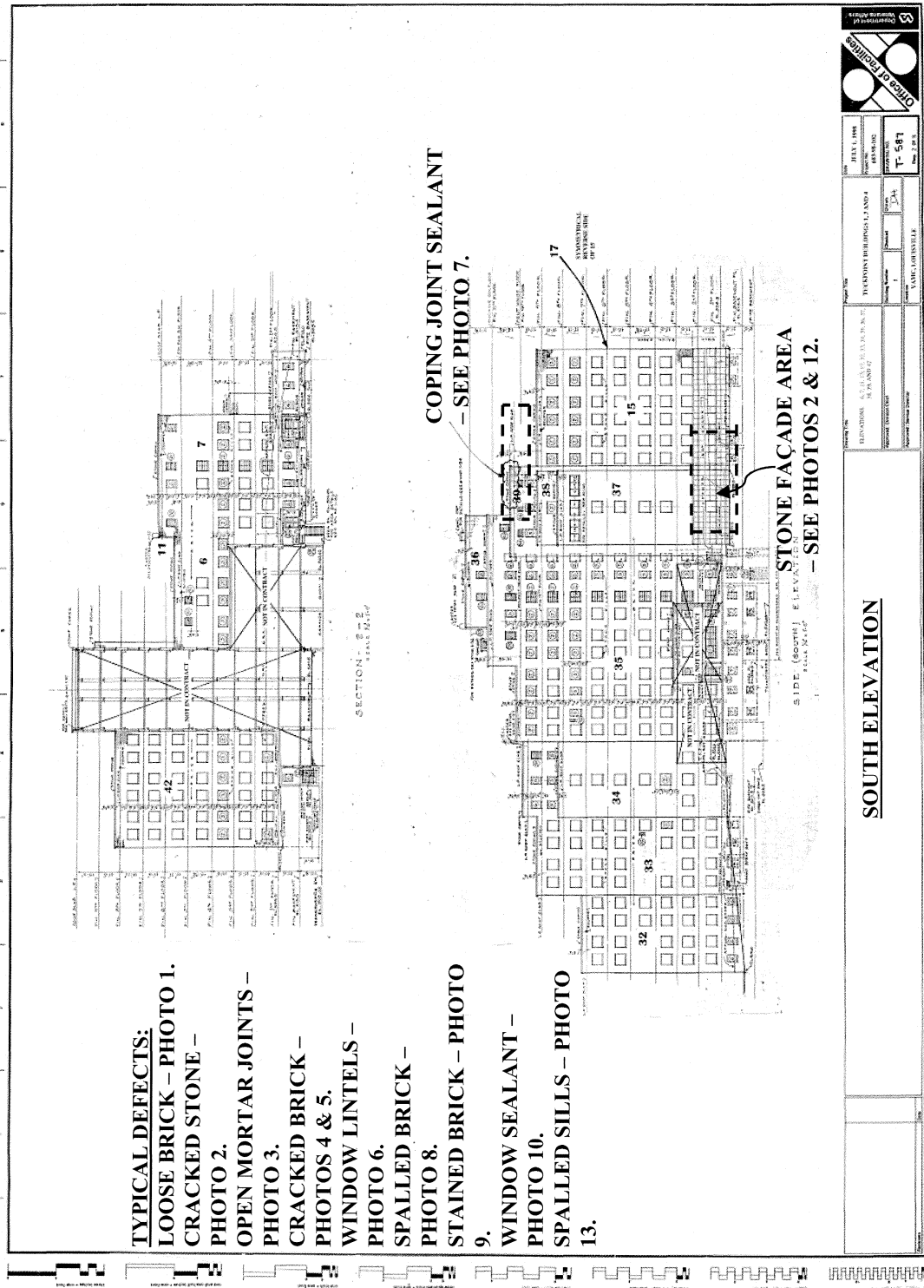
- LOOSE BRICK - PHOTO 1.
- CRACKED STONE -
PHOTO 2.
- OPEN MORTAR JOINTS -
PHOTO 3.
- CRACKED BRICK -
PHOTOS 4 & 5.
- WINDOW LINTELS -
PHOTO 6.
- SPALLED BRICK -
PHOTO 8.
- STAINED BRICK - PHOTO
9.
- WINDOW SEALANT -
PHOTO 10.
- SPALLED SILLS - PHOTO
13.



C. Deficiency Elevation Drawing (North Elevation)



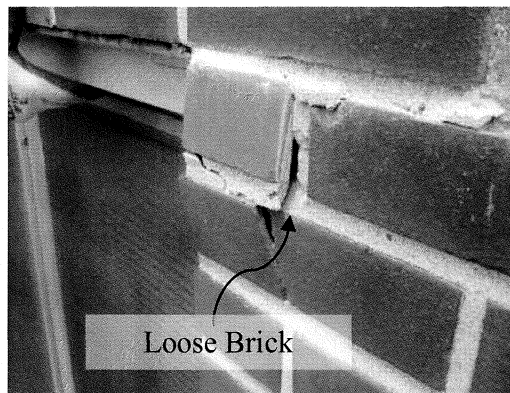
D. Deficiency Elevation Drawing (South Elevation)



E. Level F Deficiencies: Structurally Unstable (Immediate Repair Required)

1. Deficiency: Loose Brick

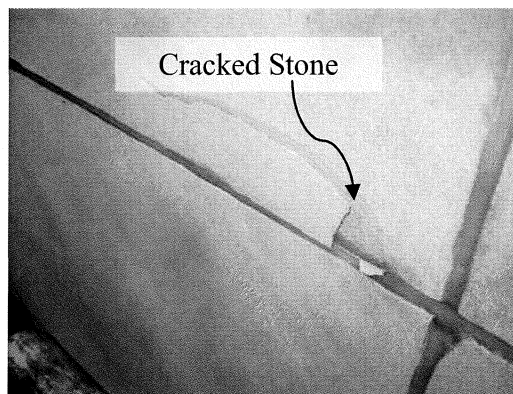
- a. Description: Loose bricks were noted at locations of mechanical damage and areas where mortar had become loose on all four sides through weathering.
- b. Frequency: Typical
- c. Proposed Repair: Remove and re-set
- d. Estimated Repair Cost: $250 \text{ S.F.} \times \$8.00/\text{S.F.} = \$2,000.00$
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.



Photograph 1: Typical Loose Brick

2. Loose/Cracked Stone

- A. Description: Cracking was noted throughout areas of stone facade.
- B. Frequency: Typical.
- C. Proposed Repair: Repair with epoxy.
- D. Estimated Repair Cost: $750 \text{ S.F.} \times \$20.00/\text{S.F.} = \$15,000.00$.
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.



Photograph 2: Typical Cracked Stone Area

F. Level D Deficiencies: Will Become Structurally Unstable (Must Be Repaired Within 3 Years)

1. Deficiency: Open Mortar Joints

- a. Description: Open mortar joints are caused by volume changes due to thermal and moisture expansion and contraction as well as expansion caused by rusting reinforcing and the hydration of salts within the masonry.
- b. Frequency: Typical
- c. Proposed Repair: Re-pointing. The cracked mortar should be removed to sound substrate and the joint re-pointed with an appropriate mortar repair material.
- d. Estimated Repair Estimate: 18,490 L.F. x \$10/L.F. = \$184,900
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.

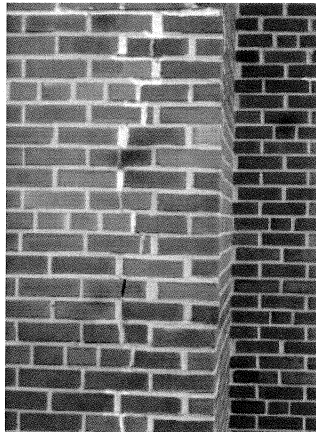


Photograph 3: Open Mortar Joint in Field of Facade

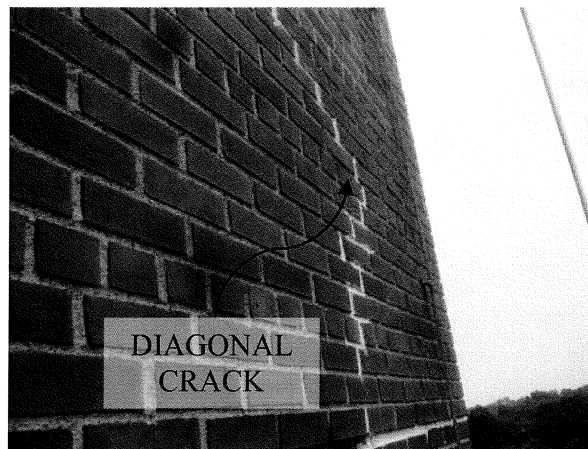
Vertical and Diagonal Cracks

2. Deficiency: Vertical & Diagonal Cracks

- a. Description: Vertical and diagonal cracks of varying severity and age were often noted at the end and in the field of the walls. Typically, longer walls had larger and more pronounced cracks. While some cracks appeared in the field of the brick, most of the cracks appeared at the ends and corners of walls where resistance to volume changes is resisted by bending rather than compression of the brick veneer. Vertical and diagonal cracks should be routed and filled with an appropriate pointing compound.
- b. Frequency: Typical
- c. Proposed Repair: Router & Point
- d. Estimated Repair Cost: 1,250 L.F. x \$10/L.F. = \$12,500
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.



Photograph 4: Typical Vertical Cracks in Brick



Photograph 5: Typical Diagonal Crack

3. Deficiency: Rusted Steel Lintels at Windows

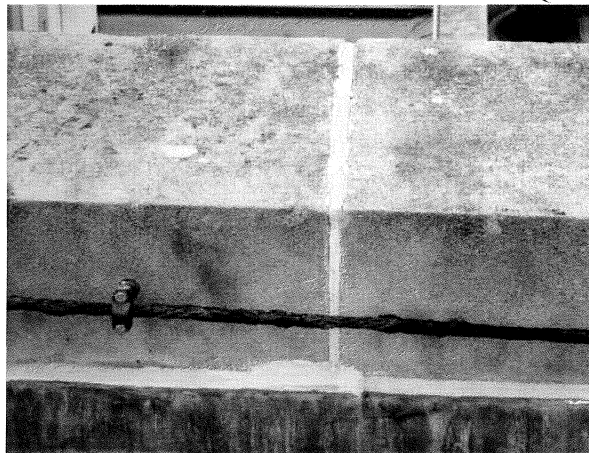
- a. Description: Window Lintels are rusted.
- b. Frequency: Typical
- c. Proposed Repair: Clean to blast clean appearance and coat with epoxy.
- d. Estimated Repair Cost: 6,012 L.F. x \$20.00/L.F. = \$120,240
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.



Photograph 6: Typical Rusted Window Lintel

4. Deficiency: Failed Coping Cap Joint Sealant

- a. Description: Joint Sealant between parapet wall coping caps has failed allowing water entry.
- b. Frequency: Typical
- c. Proposed Repair: Remove and replace the failed joint sealant.
- d. Estimated Repair Cost: 972 L.F. x \$5/L.F. = \$4,860
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.

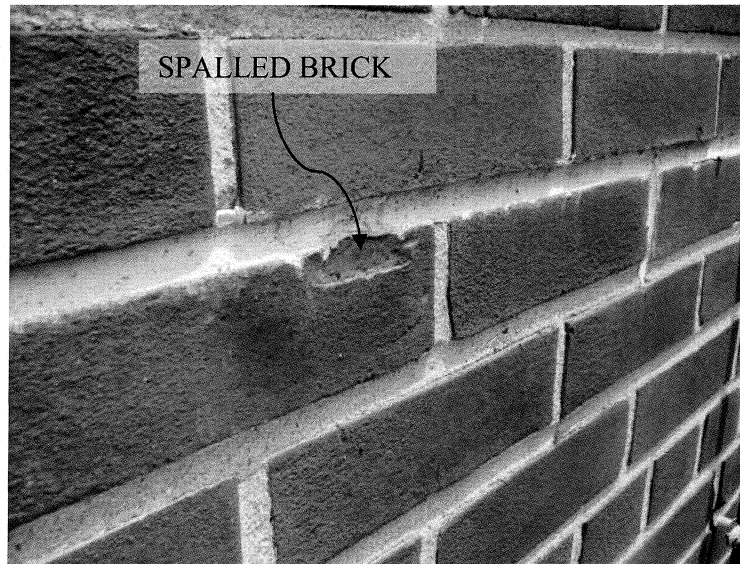


Photograph 7: Typical Failed Coping Cap Joint Sealant

G. Level B: Acceptable Condition (Include With Scheduled Maintenance)

1. Deficiency: Spalled Brick

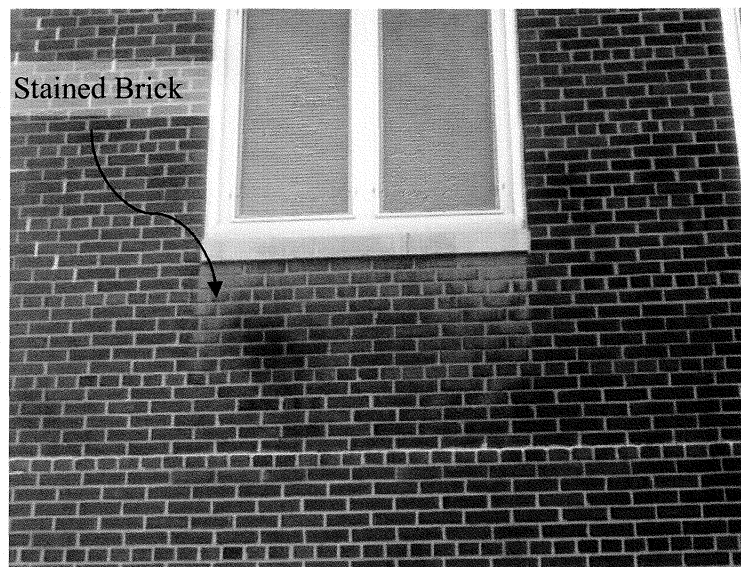
- a. Description: Spalling is the deterioration of a brick's surface brought on by the porous brick material absorbing moisture and then the brick's surface breaking apart, or spalling, when the water it absorbs expands due to freezing temperatures.
- b. Frequency: Typical
- c. Proposed Repair: Remove and replace.
- d. Estimated Repair Cost: $150 \text{ S.F.} \times \$450/\text{S.F.} = \$67,500$
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.



Photograph 8: Typical Spalled Brick

2. Deficiency: Stained Brick

- a. Description: Bricks are stained with mold, mildew, and efflorescence.
- b. Frequency: Typical.
- c. Proposed Repair: Since cleaning only the heavily soiled areas would result in a non-uniform façade appearance, the entire building should be cleaned. After cleaning, a water repellent sealer should be applied to prevent elevated moisture contents in the bricks and mortar joints. An ongoing maintenance practice of resealing the building at five year intervals could prolong re-pointing intervals.
- d. Estimated Repair Cost: $184,902 \text{ S.F.} \times \$1.50/\text{S.F.} = \$277,353$
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.



Photograph 9: Typical Stained Brick at Window

3. Deficiency: Sealant Around Windows

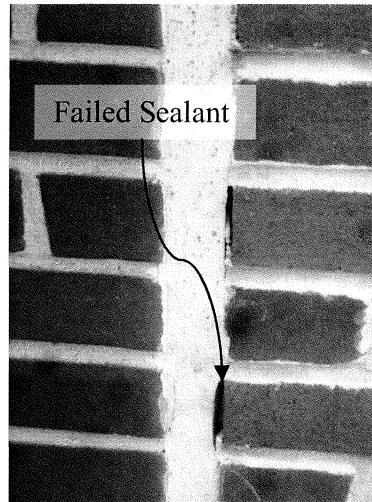
- a. Description: Sealant has failed around the perimeter of windows allowing water entry.
- b. Frequency: Typical
- c. Proposed Repair: Remove and Re-seal.
- d. Estimated Repair Cost: 20,040 L.F. x \$4.50/L.F. = \$90,180
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.



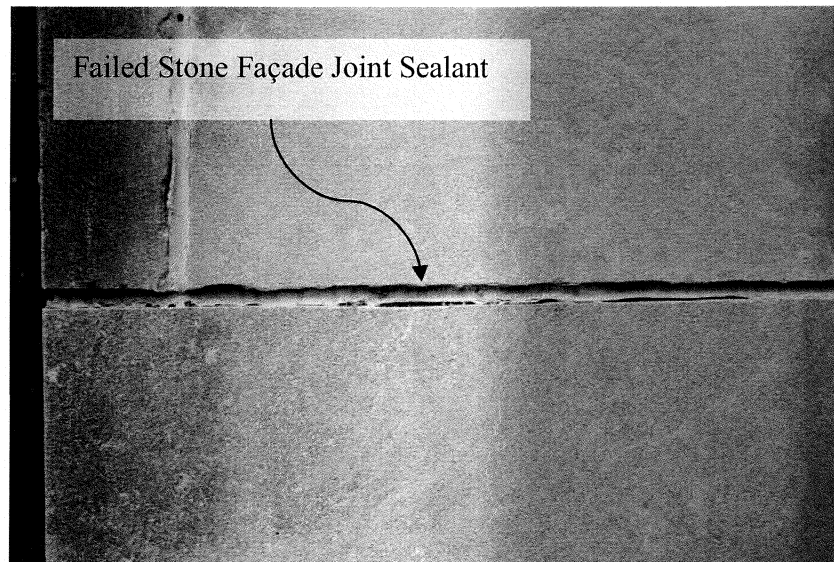
Photograph 10: Typical Failed Sealant

4. Deficiency: Failed Joint Sealants

- a. Description: Vertical Building expansion joint sealants have failed as have the joints between the stone façade panels.
- b. Frequency: Typical
- c. Proposed Repair: Remove and Replace.
- d. Estimated Repair Cost: 8,600 L.F. x \$10/L.F. \$86,000
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.



Photograph 11: Typical Failed Building Joint Sealant



Photograph 12: Typical Failed Stone Façade Joint Sealant

5. Deficiency: Cracked/Spalled Window Sills

- a. Description: Water Entry into the cast stone window sills has caused cracking and spalling due to freeze/thaw.
- b. Frequency: Typical
- c. Proposed Repair: Re-build sills with epoxy.
- d. Estimated Repair Cost: 750 S.F. x \$20/S.F. = \$15,000
Price shown is for cost of work only.
Refer to Section VIII for Estimate Qualifications.



Photograph 13: Typical Cracked/Spalled Window Sill